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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,882	09/19/2003	Darrell Rinerson	UNTP027	6771

42958 7590 10/31/2006

UNITY SEMICONDUCTOR CORPORATION  
250 NORTH WOLFE ROAD  
SUNNYVALE, CA 94085

EXAMINER
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KRAIG, WILLIAM F

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Advisory Action</b> <b>Before the Filing of an Appeal Brief</b>	Application No. 10/665,882	Applicant(s) RINERSON ET AL.	
	Examiner William Kraig	Art Unit 2815	

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 02 October 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.  
b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

#### AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☒ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: \_\_\_\_\_.  
Claim(s) objected to: \_\_\_\_\_.  
Claim(s) rejected: 1-5,8-14 and 19-31.  
Claim(s) withdrawn from consideration: \_\_\_\_\_.

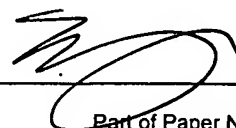
#### AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

#### REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
see attachment sheet.  
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_  
13. ☐ Other: \_\_\_\_\_.

EUGENE LEE  
PRIMARY EXAMINER



Applicant first argues that the "interface" described in the claims is synonymous with an interface layer. The Examiner argues that the claims, as written, do not specifically define that the interface has a thickness of any sort, and the Examiner's interpretation of said "interface" is that the interface includes only the bottom surface of one layer and the top surface of another layer (an entity having no thickness). Furthermore, the claims describe the interfaces as being created by "direct physical contact between the bottom surface...and the top surface..." It is unclear how a device defined as having a direct physical contact between two layers can also have a layer (interface layer) disposed therebetween. The Examiner and the Applicant discussed the meaning of the term interface, in a telephone interview on 10/24/2006. In that conversation, the Examiner stated the above position that the term "interface", on its face could be interpreted to describe an interface between two materials having no thickness whatsoever. In that same telephone interview, the Examiner also stated that, while the Zhuang reference does not specifically disclose interface layers, these layers are considered to be an inherent feature of such a structure.

Applicant next argues that the Examiner has not shown (in the Final rejection) wherein the treatment is disclosed. Examiner directs the Applicant to the cited portions of claim 18 and also to lines 13-37 of col. 3, wherein it is disclosed that the PCMO layers (multi-resistive state element) are exposed to a treatment (low temperature processing steps), wherein the properties of the interface are changed (Examiner argues that because the low temperature processing changes the PCMO ("no longer in single crystal form" (col. 3, Line 34)), the properties of the interface (which includes either the top surface or the bottom surface of the PCMO layers) are necessarily also changed).

Applicant further argues that the Examiner's analysis of the claims fails to properly treat the phrase "primarily directed". The Examiner argues that the phrase "primarily directed" is merely a motivation for performing the treatment. Just because a treatment is "primarily directed" towards one part does not mean that that treatment does not affect other parts as well, or even more so, in contrast to the Applicant's suggestion. The treatment of Zhuang et al. (low temperature processing) could be interpreted as having been primarily directed towards changing the properties of the interface even though it does affect the entire layer.

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Interview consisted of two separate telephone calls. In the first telephone call, the term "interface" was discussed. The Examiner made the point that "interface", as claimed, does not specifically define that there is an interface (or interfacial) layer. The Examiner stated that the term interface can simply be the touching of a bottom surface and a top surface of two separate entities. Applicant suggested that the claims be amended to read "interface layer". Wayne Kinney (Inventor) was consulted to ensure that such language was indeed technically accurate, and he agreed. The Examiner agreed that it appeared that the art of record did not specifically disclose an interface layer. This phone conversation ended with the Examiner stating that he would like to consult with another Examiner about the case, and agreed to return Applicant's call later that day. In the second telephone call, the Examiner stated, in view of his discussion with another Examiner, that the interface layer, while not specifically disclosed by Zhuang et al., would be considered an inherency of such a structure. Applicant and Examiner then agreed to wait for the Applicant to receive the Advisory Action before making any decisions on how to proceed.